REMARKS/ARGUMENTS

1.   The Amended Claims Comply With the Definiteness Requirement

The Examiner rejected claims 4-6, 16-18, and 27-28 as indefinite (35 U.S.C. §112, par. 2). In particular, the Examiner found that claims 4, 16, and 27 were indefinite. Applicants amended claims 4, 16, and 27 to overcome the indefiniteness rejection.

Amended claims 4, 16, and 27 require that the attribute object type indicates one of a plurality of different data structure formats that are searchable through separate application programs. Processing the query to search the attribute object further comprises: determining from the object type for the attribute associated with the attribute operator one application program capable of accessing the data structure format of the attribute object type; and calling the determined application program to determine whether the attribute object for the asset object instance includes the attribute.

Applicants amended these claims to clarify that the attribute object type indicates one of a plurality of different data structure formats and that the accessed application program is capable of accessing the data structure format of the attribute object type.

The Examiner found it was not understood what is meant by determining from the object type for the attributes associated with the attribute operator one application program that is capable of accessing the attribute object type. Applicants submit that the amended form of this limitation is clear in that a determination is made from the object type of one application program capable of accessing the attribute object type. This query "function" concerns the processing of the query by requiring that a determination be made of an application program capable of processing the data structure format of the attribute object to be searched and that this application program is called as part of the query to determine whether the attribute object being searched includes the attribute value in the query.

Further, the application program is capable of accessing the attribute object type because according to the claim, a determination is made of an application program capable of accessing the data structure format of the attribute object type.

Accordingly, Applicants submit that amended claims 4, 16, and 27, and claims 5, 6, 17, 18, and 28 that depend therefrom comply with the definiteness requirements.

2. <u>Claims 1-3, 7-15, 19-26, and 30-34 are Patentable Over the Cited Art</u>

The Examiner rejected claims 1-3, 7-15, 19-26, and 30-34 as anticipated (35 U.S.C. §102(3)) by Dorsett (U.S. Patent No. 6,658,429). Applicants traverse.

Amended claims 1, 12, and 24 concern querying instances of asset classes in a digital library and require: providing at least one asset class having at least one attribute, wherein each attribute is defined to have an attribute object comprising an external data object and attribute object type identifying a type of the attribute object; providing an asset object for each instance of one asset class, wherein the asset object includes information for the attributes in the instance of the asset class; providing a query indicating an asset name, search predicate, at least one attribute operator, and attribute value, wherein the attribute operator is associated with at least one attribute included in the indicated asset name; and processing the query by accessing asset object instances of the asset name to determine asset object instances having one attribute object for the attribute associated with the attribute operator that satisfies the search predicate and the attribute value.

Applicants amended claims 1, 12, and 24 to require that each attribute is defined to have an attribute object comprising an external data object and that the attribute object type identifies a type of the attribute object. The claims were further amended to clarify that an asset object is provided for each instance of one asset class, wherein the asset object includes information for the attributes in the instance of the asset class. The claims were yet further amended to clarify that the query determines whether the attribute satisfies the search predicate and attribute value.

The Examiner cited col. 13, line 59 of Dorsett with respect to the first limitation, which now requires that at least one asset class has at least one attribute, wherein each attribute is defined to have an attribute object comprising an external data object and attribute object type identifying a type of the attribute object.

The cited col. 13 mentions that an XYDataSet object represents data from a large variety of sources. Although the cited object includes data from different sources, nowhere does the cited col. 13 anywhere disclose that an asset class is defined as having an attribute object comprising an external data object and an object type identifying a type of the attribute object. Instead, the cited col. 13 mentions that the object has data from different sources, not attributes defined to have an external data object as claimed.

The Examiner cited FIGs. 7 and 8a-8b and associated text as disclosing the claim requirement of providing a query indicating an asset name, search predicate, at least one attribute operator, and attribute value, wherein the attribute operator is associated with at least one attribute included in the indicated asset name. (Office Action, pg. 4) The Examiner further cited col. 19, lines 12-37 as disclosing the claim requirement for processing the query. Applicants traverse.

Dorsett mentions that the cited FIGs. 7 and 8A-B concern using a system to retrieve data from a database. A user interface allows a user to select fields for a query of a database to search fields defined for specified projects and search for types of experiments for specified projects. For each type of experiment, the user can select project specified fields to search. (Dorsett, col. 18, lines 44-67). Dorsett further mentions that queries can be represented as objects and the database server processes the query and searches the database tables for records that satisfy the search terms. (Col. 19, line 1-45).

Although the cited Dorsett discusses how to select fields to search, nowhere does the cited Dorsett disclose a query indicating an asset name, search predicate, attribute operator and attribute value, where the attribute operator is associated with one attribute in the indicated asset name. Further, nowhere does the cited Dorsett anywhere disclose that the query is processed by accessing asset object instances of the asset name to determine whether the asset object instances matching the asset name have one attribute object associated with the attribute operator that satisfies a search predicate and search value. Instead, the cited Dorsett discusses providing search terms to search a database table.

Further, nowhere does Dorsett anywhere disclose the particular claimed search technique where a determination is first made of asset object instances having the asset name in the query and then determining those determined asset object instances having one attribute object for an attribute associated with an attribute operator that satisfies search criteria. Nowhere does Dorsett discloses searching asset object instances for attribute objects, comprising external data objects, that satisfy the query.

Accordingly, claims 1, 12, and 24 are patentable over the cited art because the cited Dorsett does not disclose all the claim requirements.

Claims 2, 3, 7-11, 13-15, 19-23, 25, 26, and 30-34 are patentable over the cited Dorsett because they depend from one of claims 1, 12, and 24. The below discussed dependent claims provide additional grounds of patentability over the cited art.

Claims 2, 14, and 25 depend from claims 1, 13, and 24 and further require that the query includes multiple attribute operators and attribute values to query asset object instances whose attribute objects match the attribute values and search predicate for each attribute operator.

The examiner cited FIG. 8A as teaching the additional requirements of claims 2, 14, and 25. (Office Action, pg. 5) Applicants traverse.

The discussion in Dorsett at col. 19 with respect to FIG. 8A discusses how a user may enter search terms to search fields in a database. Nowhere does the cited Dorsett anywhere disclose multiple attribute operators to query asset object instances that match an asset name having attribute objects matching attribute values and a search predict for each of the multiple attribute operators. In other words, nowhere does the cited Dorsett disclose providing a query having multiple attribute operators, where each attribute operator provides an attribute value to use to search attribute objects for an attribute associated with the attribute operator.

Accordingly, claims 2, 14, and 25 provide additional grounds of patentability over the cited art.

Claims 3, 15, and 26 depend from claims 1, 13, and 24 and further require that each asset object instance includes information on a file location of attribute objects providing the attributes for the asset object instance, and wherein processing the query to search the attribute object comprises accessing the attribute object at the file location indicated in the asset object instance having the attribute object.

The Examiner cited col. 14, lines 46-60 and col. 15, lines 1-30 of Dorsett as disclosing the requirements of these claims. (Office Action).

The cited col. 14 mentions that a database system might store only a portion of an entire document and that the laboratory data management system specifies a subset of the attributes of an instrumentation procedure document to store. Nowhere does the cited col. 14 anywhere disclose that each asset object instance, which is being searched, includes information on a file location of the attribute objects and then accessing the attribute object at the file location to search. Nowhere does the cited col. 14 anywhere disclose that an object instance is queried by querying attribute objects of the asset object instance that comprise external data objects at file

locations. Instead, the cited col. 14 mentions storing portions of an XML document by storing a subset of attributes of the document.

The cited col. 15 discusses an XML document providing a field mapping to a Java class. This permits the organization of the database on attributes. The database server process maps the Java object fields to a table.

Although the cited col. 15 discusses how to map an XML document to Java class fields to organize a database, nowhere does the cited col. 15 anywhere disclose that each object instance includes information on a file location of the attribute objects providing the attributes for the asset object instance and then querying the external attribute objects at the indicated file locations in the information for the attribute object in the asset object instance. Nowhere does the cited col. 14 anywhere disclose that an attribute object of an asset object instance is queried by searching an external data object for the asset object instance at a file location indicated in the asset object instance. Instead, the cited col. 14 discusses how an XML document maps to a Java object.

Accordingly, claims 3, 15, and 26 provide additional grounds of patentability over the cited art.

Claims 7, 19, and 30 depend from claims 1, 12, and 24 and further require one attribute comprises a relationship attribute that defines an association of a first and second asset types and a relationship attribute object associating instances of the first and second asset types. The attribute operator for a relationship attribute is associated with one attribute from the first and second asset types, wherein processing the query to search the attribute object for each asset object instance of the first asset type further comprises: accessing the relationship attribute object to determine all asset object instances of the second asset type associated with the asset object instance; and for each determined asset object instance, processing the query by determining the determined asset object instances of the second type whose attribute object for the attribute of the second asset type associated with the attribute operator matches the attribute value and satisfies the search predicate.

The Examiner cited col. 7, lines 11-17 and 34-42 and col. 6, line 56 to col. 8, line 23 of Dorsett as disclosing the requirements of these claims. (Office Action, pgs. 5-6) Applicants traverse. Note the Examiner cited col. 7, lines 11-7. Applicant assumes the Examiner intended col. 7, lines 11-17.

The cited col. 7, lines 11-17 mentions that a database stores experimental and analytic data derived from experiments and maintains three representations of each item of data. Nowhere does this cited col. 7, lines 11-17 anywhere disclose the claim requirement that one attribute comprises a relationship attribute defining an association of a first and second asset types and a relationship attribute object associating instances of the first and second asset types. Instead, the cited col. 7 discusses how a database stores experimental and analytic data and three representations of item of data.

The cited col. 7, lines 34-42 mentions that a database server parses data for each object represented in an XML stream and uses the extracted object information to store each object in database 180 by mapping the object to one or more database tables. Nowhere does the cited col. 7, lines 34-42 anywhere disclose the claim requirement that one attribute comprises a relationship attribute defining an association of a first and second asset types and a relationship attribute object associating instances of the first and second asset types.

Further, nowhere does this cited col. 7, lines 34-42 disclose the claim requirements of processing a query by determining the determined asset object instances of the second type whose attribute object for the attribute of the second asset type associated with the attribute operator matches the attribute value and satisfies the search predicate. In other words, nowhere does the cited col. 7 anywhere disclose determining object instances of a second asset type associated with object instances of the first type, and then determining those determined asset object instances of the second type whose attribute object satisfies the search predicate and value.

The cited col. 7, line 56 to col. 8, line 23 discusses how a user registers a library by requesting a new LibraryID. The data server process generates a libraryID and defines the library geometry by prompting the user to input the number of rows and column. The user can also specify values fro one or more searchable fields. The user can also associate one or more data files with the new library and the data server process can create separate objects representing each new library. The database server process creates an experiment object representing the preparation of the library and a separate object representing each new library.

Although the cited cols. 7-8 discuss how to create a new library, nowhere do these cited cols. 7-8 anywhere disclose the claim requirement that one attribute comprises a relationship attribute defining an association of a first and second asset types and a relationship attribute object associating instances of the first and second asset types. Further, nowhere do the cited

cols. 7-8 disclose processing a query by determining the determined asset object instances of the second type whose attribute object for the attribute of the second asset type associated with the attribute operator matches the attribute value and satisfies the search predicate.

Accordingly, claims 7, 19, and 30 provide additional grounds of patentability over the cited art.

Claims 8, 20, and 31 depend from claims 7, 19, and 30 and further require that the relationship attribute object comprises a database table, wherein a first column in the database table is for unique identifiers of instances of the first asset type and a second column in the database table is for unique identifiers of instances of the second asset type. A row in the database table identifies one instance of the first asset type identified by the unique identifier in the first column of the row that is associated with one instance of the second asset type identified by the unique identifier in the second column of the row.

The Examiner cited col. 11, lines 5-15 of Dorsett as disclosing the additional requirement of these claims. (Office Action, pg. 6) Applicants traverse.

The cited col. 11 shows information being stored in a database. Nowhere does the cited col. 11 anywhere disclose that a relationship attribute associating instances of first and second asset types comprise ad database table, wherein a first column is for identifiers of a first asset type and the second column for identifiers of the second asset type, where this database is searched as part of determining attributes of instances of the second asset type that match a query on asset object instances of a first asset type. Nowhere does the cited col. 11 anywhere disclose using a database table as a relationship attribute as claimed.

Accordingly, claims 8, 20, and 31 provide additional grounds of patentability over the cited art.

The dependent claims 9-11, 21-23, and 32-34 provide additional grounds of patentability over the cited art because their additional requirements in combination with the base claims provide further distinctions over the cited art.

The Examiner rejected claim 29 as obvious (35 U.S.C. §103) over Dorsett in view of Boucher (U.S. Patent No. 6,745,368). Applicants traverse and submit that claim 29 is patentable over the cited art because it depends from claim 24, which is patentable over the cited art for the reasons discussed above.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1-34 are patentable over the art of record. Applicants have not added any claims. Nonetheless, should any additional fees be required, please charge Deposit Account No. 09-0460.

The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

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